

Monsanto

FROM (NAME & LOCATION): M. R. Foresman - Krummrich

DATE March 9, 1971

cc C. F. Buckley

SUBJECT W. G. KRUMMRICH LIQUID AND SOLID  
WASTE DISPOSAL - STATUS REPORT

REFERENCE

TO : P. E. Heisler

*Confirms no outside sources  
Sensen  
5/18/79*

W.G. Krummrich Liquid and  
Solid Waste Disposal - Status  
Report, 3-9-71

### BACKGROUND

At the present time the Krummrich plant uses three different methods for disposal of its liquid and solid wastes:

- (1) Solid waste and trash hauled to the Sauget Village sanitary landfill.
- (2) Liquid chemical waste hauled to the Monsanto sanitary landfill.
- (3) Liquid waste disposal through the Village of Sauget sewer system.

The continued use of the Monsanto landfill as a method of disposal for liquid chemical wastes has been in doubt since 1968 when the State found evidence of ground water contamination, and the recent State inspection of the Village landfill, with many deficiencies noted, could conceivably cause the Pollution Control Board to issue a cease and desist order against both landfills.

### DETAILS

#### A. W. G. Krummrich Waste Disposal 1970

During 1970 the following quantities of waste, excluding trash, were disposed of at the Village and chemical landfill.

Sauget Village Landfill (mostly filter aid) 10,073,470 #/year

Monsanto Chemical Landfill 540,153 #/year (Chem.)

25,349,310 #/year

TOTAL 35,962,933 #/year

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DETAILS (continued)

B. Village of Sauget Sanitary Landfill

During December of last year, a sanitary inspector from the Environmental Protection Agency inspected the Sauget Sanitary Landfill and found seven (7) different violations of the Environmental Protection Act as follows:

1. The site is not adequate fenced with an entrance gate that can be locked and posted.
2. Opening and closing hours and days of operation are not clearly shown.
3. Dumping of refuse on the site is not confined to the smallest practical area.
4. Portable fencing is not used to prevent blowing litter from the unloading site.
5. The fill and surrounding area is not policed to collect all scattered material.
6. A compacted layer of at least six (6) inches of cover material is not applied to all exposed refuse at the end of each working day.
7. All salvaged materials are not removed from the landfill site daily or properly stored so that they will not create a nuisance, rat harborage or unsightly appearance.

To date, I have been advised that only items number 2 and 3 have been satisfactorily corrected. A portable fence as described in number 4 is being used, but only running approximately 150 feet along the northern edge of the unloading site. During a recent inspection of the landfill, the writer noticed litter being blown west from the unloading site toward the river.

C. Monsanto Chemical Waste Landfill

At the present time, Ranney well contamination is running about 5 PPM phenol and has averaged this for the last six months. All of the liquid chemical waste taken to the landfill is discharged into segregated lagoons in the south area of the landfill, and chemicals hauled in drums are unloaded and buried in the center of the landfill. Adequate

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C. Monsanto Chemical Waste Landfill (continued)

cover material is being used for the drummed materials and the writer found only one item that needs correction - a fire hose used to wash out trailers does not have an easily accessible shutoff and, therefore, is left running at about 10 GPM which might cause percolation of the waste chemicals into the ground water.

D. Effects of Village and Monsanto Landfill Shutdown on W.G.K.

If the landfills were ordered to cease operation, the W. G. Krummrich plant would be put in the position of having approximately 100,000 #/day of chemical waste plus trash to dispose of by other methods. Proposed short and long range solutions to this are as follows:

1. Short Range Solution

- a. Trash and solid waste - This material could easily be hauled to another landfill. The Millstadt strip mining area would probably be the closest and a contract could probably be negotiated with a landfill operator in this area.
- b. Liquid chemical waste - The disposal of the liquid chemical wastes would have to cease, seriously effecting the operation of the Krummrich plant. At the present time, there is no other chemical landfill capable of handling our waste products and no easy short range solution for this problem. It is felt that both the Krummrich plant and Queeny plant would be forced to curtail production by 50% within three days of a landfill shutdown because of the complex interrelationship of production departments at both plants.

2. Long Range Solution

The long range solution of the waste problem should be handled by a combination of three different methods. These are as follows:

- a. Landfill - Monsanto Company should consider purchasing land in the Millstadt strip mining area for development of a sanitary landfill for disposal of its non-combustible chemical solids and trash. The landfill should be capable of handling

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D. Effects of Village and Monsanto Landfill Shutdown on W.G.K.  
(continued)

2. Long Range Solution (continued)

- a. waste material from W.G.K., Queeny and the G.O. as is presently done at the Sauget landfill. The operation could be handled by an outside contractor on a yearly bid basis to avoid Monsanto personnel being required to operate the landfill. The State Environmental Protection Agency should be formally approached for permission to operate a new liquid chemical landfill in this strip mining area. From past informal discussions, it is hardly likely to be granted, but the expense of the other alternatives makes it worth the effort.
- b. Deep well disposal - This method is the most efficient and least costly method for the disposal of waste which could not easily be handled by incineration or conventional surface treatment. Monsanto Biodize Systems, Inc. has prepared both a feasibility study of subsurface liquid waste disposal and a final construction and testing procedure plans and specifications report for the W. G. Krummrich plant to use in obtaining approval from State of Illinois officials to begin drilling of the exploratory well.

Table I shows a breakdown of the liquid wastes that are presently being hauled to the sanitary landfill and which we would like to dispose of by use of a deep well. Also, because of the cost of neutralization before secondary treatment, some acid streams that are now being sewered would be more economically disposed of by deep well injection. These streams are listed in Table II.

- c. Incineration - For positive control of liquid and solid combustible waste, incineration facilities will be required. Since most of the Queeny waste will be amenable to incineration, it appears that it would be more desirable to use the same facilities and personnel for disposal of the present landfill waste. In the near future, the Aroclor incinerator will be in operation and current indications are that only approximately 25% of the Aroclor incinerator capacity will be needed for waste Aroclors, thus leaving 7.5 M #/year of unused capacity for the disposal of other liquid wastes. At the present time, we are in the process of developing a tentative

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D. Effects of Village and Monsanto Landfill Shutdown on W.G.K.  
(continued)

2. Long Range Solution (continued)

- c. list of wastes to incinerate from the approximately 25 M #/year of liquid chemicals hauled to the landfill.

If the Aroclor incinerator will be capable of handling approximately 5 M #/year of WGK's liquid waste, then the capacity of the proposed incineration facility would be approximately 15 M #/year. In any event, a detailed study is needed to determine the physical and chemical characteristics of the waste to define the exact handling, storage and incineration requirements.

E. Sauget Village Treatment Plant

At the present time, the W. G. Krummrich plant discharges approximately 10,000 GPM of waste water to the Sauget Village treatment plant. Monsanto Biodize is in the process of doing a two-year study for the construction of a secondary treatment plant, and preliminary data indicates that an extensive amount of in-plant work will be required prior to June 1974, for the reduction of nitrogen and its compounds. The process changes and/or control equipment for nitrogen removal will most likely produce liquid and solid waste which will further add to our disposal problems. In-plant reduction for other compounds will probably become evident as Monsanto Biodize begins to obtain data from its pilot plant treatability studies.

F. Future Work

The Pollution Control Group at W.G.K. has been involved with all of the mentioned liquid and solid waste disposal problems in a control and/or advisory capacity, and at the present time, future work toward their solution is as follows:

1. Continue work toward tentative approval from State officials for the drilling of the exploratory Deep Disposal Well.
2. Work with production and TSD personnel in the selection of waste materials to incinerate in the Aroclor incinerator.

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F. Future Work (continued)

3. Approach the State Environmental Protection Agency for permission to operate a liquid and solid chemical landfill in the Millstadt strip mining area.
4. Conduct an audit of the major departments effected by a landfill shutdown and their interrelationship with other non-landfill waste producing departments.
5. Conduct a survey as to the best means of disposal (landfill, deep well, incineration) for each waste material presently leaving the W. G. Krummrich plant. Comparable work should be done by the Queeny pollution group so that the total picture could be developed.

*Mike Foresman*

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Pollution Control Group

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Attachments

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